IN THE CLAIMS:

Amendments to the Claims

Please amend claims 1, 2, 5, 8, 11 and 13 and add the new claims as shown below.

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method for detecting a defect, comprising the steps of:

obtaining an image signal of a sample by imaging said sample through an objective lens of a bright field optical system;

adjusting optical conditions of said bright field optical system so as to decrease a difference of contrast ~~or contrast of a pattern~~ in the image signal among segments corresponding to a plurality of regions on said sample;

obtaining the image signal of said sample under the adjusted optical conditions by imaging said sample through said objective lens of bright field optical system having the adjusted optical conditions; and

detecting a defect of said sample by processing the image signal of the sample under said adjusted optical conditions.

2. (currently amended) A method for detecting a defect, comprising the steps of:

obtaining an image signal of a sample by illuminating through an objective lens and imaging said sample through said objective lens;

adjusting a transmission ratio of 0-th order diffracted light included in entire light generated by said illumination and reflected from said sample so as to decrease

a difference of contrast ~~or contrast of a pattern~~ in the image signal among segments corresponding to a plurality of regions on said sample;

obtaining the image signal of said sample with the adjusted transmission ratio of said 0-th order diffracted light by imaging said sample under the conditions in that the transmission ratio of said 0-th order diffracted light has been adjusted; and

detecting defects of said sample by processing the image signal of said sample under the adjusted transmission ratio of said 0-th order diffracted light.

3. (original) A method for detecting a defect according to claim 2, wherein said step of adjusting the transmission ratio of said 0-th order diffracted light is performed by utilizing a polarization difference between the 0-th order diffracted light and higher order diffracted light.

4. (original) A method for detecting a defect according to claim 2, wherein said step of adjusting the transmission ratio of said 0-th order diffracted light is performed by utilizing a spatial filter that is positioned on or in the neighborhood of a Fourier transform plane of said sample and that reduces the transmission ratio of the 0-th order diffracted light.

5. (currently amended) A method for detecting a defect, comprising the steps of:

illuminating a sample <u>through an objective lens</u>;

obtaining a plurality of images having different transmission ratios of 0-th order diffracted light <u>through said objective lens</u> by changing the transmission ratio of the 0-th order light included in entire light generated by said illumination and reflected from said sample and imaging said sample;

determining conditions for the transmission ratio of the 0-th order diffracted light on which defect detection sensitivity is increased by using the plurality of images having the different transmission ratios of said 0-th order diffracted light;

setting the transmission ratio of the 0-th order diffracted light included in the entire light reflected from said sample to said determined conditions for the transmission ratio;

obtaining the image by imaging said sample through said objective lens under said determined conditions for said transmission ratio of said 0-th order diffracted light; and

detecting a defect of said sample by using the image captured under said determined conditions for said transmission ratio of said 0-th order diffracted light.

6. (original) A method for detecting a defect according to claim 5, wherein said step of obtaining a plurality of images by changing the transmission ratio of said 0-th order diffracted light is performed for a plurality of regions on said sample, and a particular value of the transmission ratio of the 0-th order diffracted light with which a brightness-difference of the detected images among the plurality of regions of said sample is decreased is set as conditions for the transmission ratio of the 0-th order diffracted light that increase said defect detection sensitivity.

7. (original) A method for detecting a defect according to claim 5, wherein said step of obtaining a plurality of images by changing the transmission ratio of said 0-th order diffracted light is performed for a plurality of regions on said sample, the images detected for the plurality of regions of said sample are subjected to second differentiation to sum up the secondary differential values in the images, and a particular value of the transmission ratio of the 0-th order diffracted light with which the summation of the secondary differential values is increased is set as conditions

for the transmission ratio of the 0-th order diffracted light that increase said defect detection sensitivity.

8. (currently amended) A method for detecting defects, comprising the steps of:

illuminating a sample by polarized light through an objective lens;

obtaining an image of said sample by imaging said illuminated sample through said objective lens;

adjusting polarization conditions of light generated by said illumination and reflected from said sample based upon contrast information of the obtained image of said sample;

obtaining the image of the sample under the adjusted polarization conditions by imaging said sample through said objective lens under the adjusted polarization conditions of said reflected light; and

detecting a defect of said sample by using the image of said sample obtained under said adjusted polarization conditions.

9. (original) A method for detecting a defect according to claim 8, wherein the transmission ratio of the 0-th order diffracted light included in the reflected light from said sample is changed by adjusting the polarization conditions of the light reflected from said sample.

10. (original) A method for detecting a defect according to claim 8, wherein contrast of the image obtained by capturing said sample is adjusted by adjusting the polarization conditions of the light reflected from said sample.

11. (currently amended) An apparatus for detecting a defect, comprising:

a stage for loading a sample;

an illuminating system which illuminates the sample loaded on said stage through an objective lens;

an optical control unit which controls a transmission ratio of light illuminated by said illuminating system and reflected regularly from said sample;

an imaging optical system which images an optical image of said sample through said objective lens, said sample being illuminated by said illuminating system;

image detecting unit which detects the optical image imaged by said imaging optical system and outputting a digital image; and

a defect detecting section which detects a defect of said sample by using the digital image output from said image detecting unit.

12. (original) An apparatus for detecting a defect according to claim 11, further comprising contrast calculating unit which calculates contrast of said digital image by processing the digital image output from said image detecting unit.

13. (currently amended) An apparatus for detecting a defect, comprising:

a stage for loading a sample;

an illuminating system which illuminates the sample loaded on said stage with polarized light through an objective lens;

polarization adjusting unit which adjusts polarization conditions of the light illuminated by said illuminating system and reflected from said sample;

imaging unit which ~~imaging~~ obtains an image of said sample through said objective lens under the polarization conditions that are adjusted by said polarization adjusting unit; and

defect detecting section which detects defects of said sample by using the image captured by said imaging unit.

14. (original) An apparatus for detecting a defect according to claim 13, wherein said polarization adjusting unit change a transmission ratio of 0-th order diffracted light included in entire light reflected from said sample by adjusting the polarization conditions of the light reflected from said sample.

15. (original) An apparatus for detecting a defect according to claim 13, wherein said polarization adjusting unit adjusts contrast of the image that said imaging unit images from said sample by adjusting the polarization conditions of the light reflected from said sample.

16. (new) A method for detecting a defect according to claim 2, wherein said step of obtaining an image signal of a sample by illuminating through an objective lens and imaging said sample through said objective lens includes illuminating said sample with bright field illumination.

17. (new) A method for detecting a defect according to claim 5, wherein said step of illuminating a sample through an objective lens includes illuminating with bright field illumination.

18. (new) A method for detecting defects according to claim 8, wherein said step of illuminating a sample by polarized light through an objective lens includes illuminating with bright field illumination.

19. (new) An apparatus for detecting a defect according to claim 11, wherein said illuminating system is a bright field illuminating system.

20. (new) An apparatus for detecting a defect according to claim 13, wherein said illuminating system is a bright field illuminating system.